LISTING OF CLAIMS

This listing of claims will replace all prior versions of claims in the application.

Claim 1 (Previously presented): A method of producing nuclear transfer embryos from donor cells of a species other than bovine and a recipient bovine oocyte comprising:

inducing the donor cells to undergo G_0 arrest;

fusing said donor cell to an enucleated recipient bovine oocyte to create a nuclear transfer embryo;

activating said nuclear transfer embryo; and

culturing the activated embryo to allow the embryo to undergo maternal to embryonic transition.

Claim 2 (Original): The method of claim 1 wherein said G_0 arrest of donor cells is induced by culture in low serum medium.

Claim 3 (Original): The method of claim 1 wherein said donor cells are selected from the group consisting of embryonic derived cells, germ cells, somatic cells, and genetically modified cells.

Claim 4 (Cancelled)

Claim 5 (Previously presented): The method of claim 1 wherein said enucleated bovine recipient oocyte is prepared from a bovine oocyte undergoing nuclear maturation within 16 hours of beginning in vitro culture.

Claim 6 (Previously presented): The method of claim 1 wherein said enucleated recipient oocyte and said donor cell are fused by electric pulse to form a nuclear transfer embryo.

Claim 7 (Original): The method of claim 1 wherein said fusion is performed 16-32 hours after the beginning of in vitro culture.

Claim 8 (Previously presented): The method of claim 1 wherein said nuclear transfer embryo is activated by elevating intracellular calcium and then incubating with a serine threonine kinase inhibitor.

Claim 9 (Original): The method of claim 8 wherein intracellular calcium is elevated by incubation with ionomycin and the serine threonine kinase inhibitor is DMAP.

Claim 10 (Original): The method of claim 1 wherein said activation is 16-32 hours after the beginning of in vitro culture.

Claim 11 (Original): The method of claim 6 wherein said fusion is 16-52 hours after the beginning of in vitro culture.

Claim 12 (Previously presented): A non-human embryo produced by the method of claim 1.

Claim 13 (Currently amended): A method of producing nuclear transfer embryos from a donor cell of one species other than bovine and a bovine recipient oocyte comprising:

culturing non-bovine donor cells selected from the group consisting of embryonic derived cells, somatic cells, germ cells, and genetically modified cells in low serum medium so that said donor cells are induced to arrest in the Go stage of the cell cycle;

selecting a bovine recipient oocyte which has completed nuclear maturation before 16 hours from the beginning of in vitro culture;

enucleating said bovine recipient oocyte after 16-32 hours of in vitro culture;

placing said donor cell under the ~~zone~~ zona pellucida of the enucleated oocyte so that said donor cell contacts said enucleated oocyte;

fusing said donor cell with said enucleated oocyte by electric pulse at 16-32 hours after the beginning of in vitro culture to create a nuclear transfer embryo;

activating said nuclear transfer embryo by sequential incubation with ionomycin and 6-dimethylaminopurine at 16 to 32 hours after beginning of in vitro culture; and

culturing the nuclear transfer embryo to allow the embryo to undergo maternal to embryonic transition.

Claim 14 (Previously presented): A non-human embryo produced by the method of claim 13.

Claim 15 (Cancelled)